

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/537,416

said optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine,

wherein said biological material is one obtained from a microorganism belonging to the genus *Arthrobacter*, *Klebsiella*, *Nocardia*, *Rhizobium*, *Saccharopolyspora* or *Streptomyces*, and isolating an optical isomer II.

11. (new) A method for producing an optical isomer II from an optical isomer I of an amino acid represented by Formula (1):



wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group,

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said method comprising reacting a biological material with said optical isomer I, wherein said biological material has an ability of converting said optical isomer I to said optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine,

wherein said biological material is one obtained from a microorganism classified to *Arthrobacter pascens*, *Flavimonas oryzihabitans*, *Klebsiella planticola*, *Nocardia diaphanozonaria*, *Pseudomonas chlororaphis*, *Pseudomonas oleovorans*, *Pseudomonas oxalaticus*, *Pseudomonas taetrolens*, *Rhizobium meliloti*, *Saccharopolyspora hirsuta* or *Streptomyces roseus*, and isolating said optical isomer II.

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12. (new) A method for producing an optical isomer II from an optical isomer I of an amino acid represented by Formula (1):



wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group, said method comprising reacting a biological material with said optical isomer I, wherein said biological material has an ability of converting said optical isomer I to said optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine,

wherein said biological material is one obtained from *Arthrobacter pascens* strain IFO12139, *Flavimonas oryzihabitans* strain JCM2952, *Klebsiella planticola* strain JCM7251, *Nocardia diaphanozonaria* strain JCM3208, *Pseudomonas chlororaphis* strain IFO3521, *Pseudomonas oleovorans* strain IFO13583, *Pseudomonas oxalaticus* strain IFO13593, *Pseudomonas taetrolens* strain IFO3460, *Rhizobium meliloti* strain IFO14782, *Saccharopolyspora hirsuta subsp. kobensis* strain JCM9109 or *Streptomyces roseus* strain IFO12818, and isolating said optical isomer II.

13. (new) A method for improving the optical purity of an amino acid represented by Formula (1):



wherein R is an optionally substituted C1-C12 alkyl group, an optionally

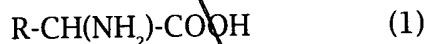
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substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group,

said method comprising reacting a biological material with said amino acid represented by Formula (1), wherein said biological activity has an ability of converting an optical isomer I of said amino acid to an optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine,

wherein said biological material is one obtained from a microorganism belonging to the genus *Arthrobacter*, *Klebsiella*, *Nocardia*, *Rhizobium*, *Saccharopolyspora* or *Streptomyces*.

14: (new) A method for improving the optical purity of an amino acid represented by Formula (1):



wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group,

said method comprising reacting a biological material with said amino acid represented by Formula (1), wherein said biological material has an ability of converting an optical isomer I of said amino acid to an optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine,

wherein said biological material is one obtained from a microorganism

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classified to *Arthrobacter pascens*, *Flavimonas oryzihabitans*, *Klebsiella planticola*,
Nocardia diaphanozonaria, *Pseudomonas chlororaphis*, *Pseudomonas oleovorans*,
Pseudomonas oxalaticus, *Pseudomonas taetrolens*, *Rhizobium meliloti*,
Saccharopolyspora hirsuta or *Streptomyces roseus*.

15. (new) A method for improving the optical purity of an amino acid
represented by Formula (1):



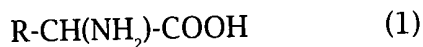
wherein R is an optionally substituted C1-C12 alkyl group, an optionally
substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group,

said method comprising reacting a biological material with said amino acid
represented by Formula (1), wherein said biological material has an ability of
converting an optical isomer I of said amino acid to an optical isomer II, the isomerism
being on the basis of an asymmetric carbon atom to which both of an amino group and
a carboxyl group are bound and said ability being not inhibited seriously by an amino
acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine,

wherein said biological material is one obtained from *Arthrobacter pascens*
strain IFO12139, *Flavimonas oryzihabitans* strain JCM2952, *Klebsiella planticola* strain
JCM7251, *Nocardia diaphanozonaria* strain JCM3208, *Pseudomonas chlororaphis* strain
IFO3521, *Pseudomonas oleovorans* strain IFO13583, *Pseudomonas oxalaticus* strain
IFO13593, *Pseudomonas taetrolens* strain IFO3460, *Rhizobium meliloti* strain IFO14782,
Saccharopolyspora hirsuta subsp.kobensis strain JCM9109 or *Streptomyces roseus* strain
IFO12818.

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16. (new) A method for producing an optical isomer II from an optical isomer I of an amino acid represented by Formula (1):



wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group,

said method comprising reacting a biological material with a racemic mixture of said optical isomers I and II, wherein said biological material has an ability of converting an optical isomer I of said amino acid to an optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, and isolating said optical isomer II.

17: (new) A method for producing an optically active isomer II from an optical isomer I of an amino acid represented by Formula (1):



wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group,

said method comprising reacting a biological material with said optical isomer I, wherein said biological material has an ability of converting said optical isomer I of said amino acid to said optically active isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase

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inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, and isolating said optically active isomer II.

18: (new) A method for producing an optically active amino acid having increased optical purity with respect to an optical isomer II of an amino acid represented by Formula (1):



C¹
wherein R is an optionally substituted C1-C12 alkyl group, an optionally substituted C4-C8 cycloalkyl group or an optionally substituted C6-C14 aryl group,

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said method comprising reacting a biological material with a mixture of an optical isomer I and said optical isomer II, wherein said biological material has an ability of converting said optical isomer I of said amino acid to said optical isomer II, the isomerism being on the basis of an asymmetric carbon atom to which both of an amino group and a carboxyl group are bound and said ability being not inhibited seriously by an amino acid transferase inhibitor β -chloro-D-alanine, β -chloro-L-alanine or gabaculine, wherein the mixture is not a racemic mixture.
